| | |
|---|---|
| File name: | C:\Solid\Combi\Data\Kaufhold_shale\TS-12c_2022-03-16.144 |

SOLID REPORTING

| | |
|---|---|
| Company name: | ETH Zürich |
| Operator: | MP |

TEST INFORMATION

| | |
|---|---|
| Test date: | 16-03-22 |
| Sample name: | TS-12c |
| Comment: | neues Material März2022 |
| Sample mass (g): | 7.011 |
| Sample skeleton density (g/cm³): | 2.8306 |
| Test file name: | C:\Solid\Instr2\Data\Kaufhold_shale\TS-12c_2022-03-16.P44 |
| Combined with file (140): | C:\Solid\Instr1\Data\Kaufhold_Shale\TS-12c_2022-03-16.P14 |
| Mercury surface tension (N/m): | 0.48 |
| Mercury contact angle (°): | 140.0 |
| Test filling volume (mm³): | 453.0 at P < 1 Pa |
| Starting hydr. press. of test (MPa): | 0.0132 |
| (Dil+Hg+Sample) weight (g): | 147.004 |
| Corrected weight (Dil.+Hg+Sample) (g): | 147.031 |

ANALYTICAL CONDITIONS

| | |
|---|---|
| Maximum test pressure (MPa): | 400 |
| Increase speed: | 5 - 17 MPa/min |
| Increase method: | Pascal Stepwise |
| Decrease speed: | 3 - 11 MPa/min |
| Decrease method: | Pascal Stepwise |
| Temperature of test (°C): | 22.2 |
| Mercury density @ test (g/cm³): | 13.5409 |

PREPARATION

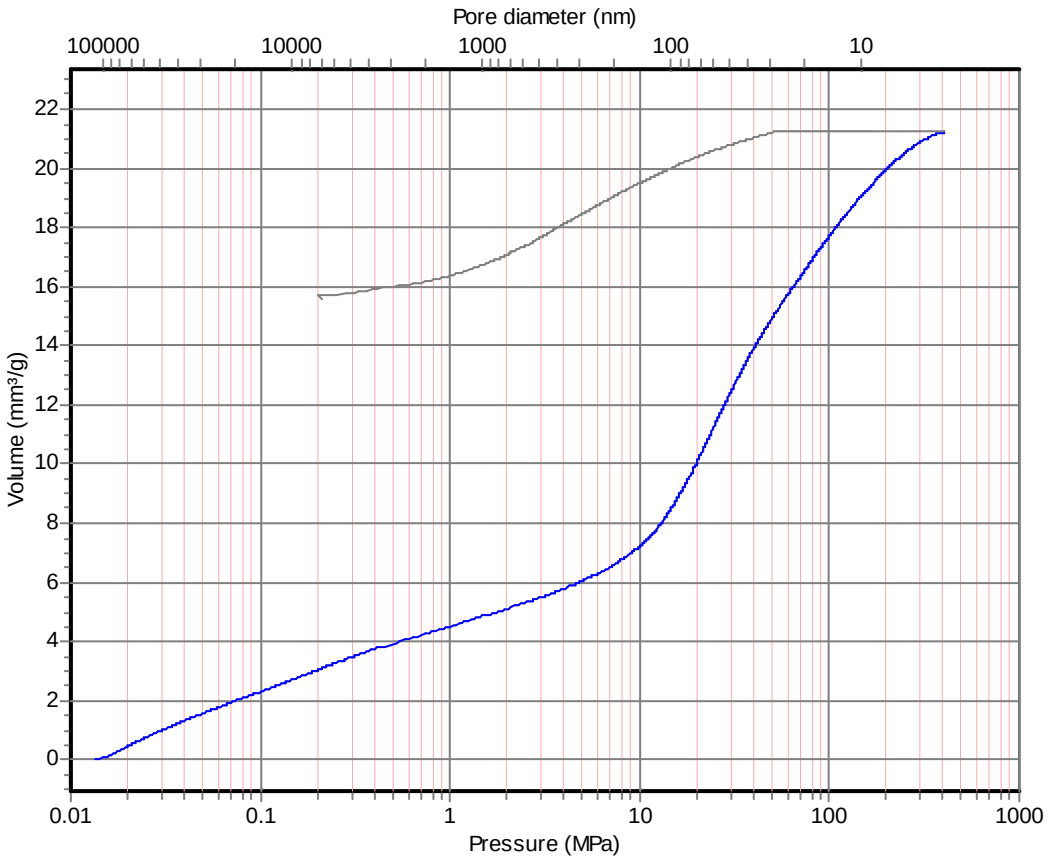
| | |
|---|---|
| Wait time for filling (min): | 10 |
| Air pulses (N.): | 1 |
| Filling volume (mm³): | 450.0 |
| Preparation selection: | AutoMatic |

BLANK & DILATOMETER INFORMATION (Data from Pascal 440 file)

| | |
|---|---|
| Blank date: | 05-10-20 |
| Blank filename: | C:\Solid\Instr2\Blank\BK_D8080_2020-10-05_1058.P44 |
| Comment | Blindwert 80_80 |
| Blank Max pressure (MPa): | 400 |
| Blank Increase speed: | 5 - 17 MPa/min |
| Blank Increase method: | Pascal |
| Blank Decrease speed: | 3 - 11 MPa/min |
| Blank Decrease method | Pascal |
| Dil. number: | 8080 |
| Dil. type: | CD3 |
| Dil. Cone length (mm): | 30 |
| Dil. Electrode gap (mm): | 5 |
| Dil. stem radius (mm): | 1.5 |
| Dil. weight (g): | 59.865 |
| Temperature of blank (°C): | 22.8 |
| Mercury density @ blank (g/cm³): | 13.5394 |
| Blank filling volume (mm³): | 455 at P < 1 Pa |
| Starting hydr. blank press. (MPa): | 0.013248 |
| (Dil+Hg) weight (g): | 176.068 |

## SAMPLE RESULTS

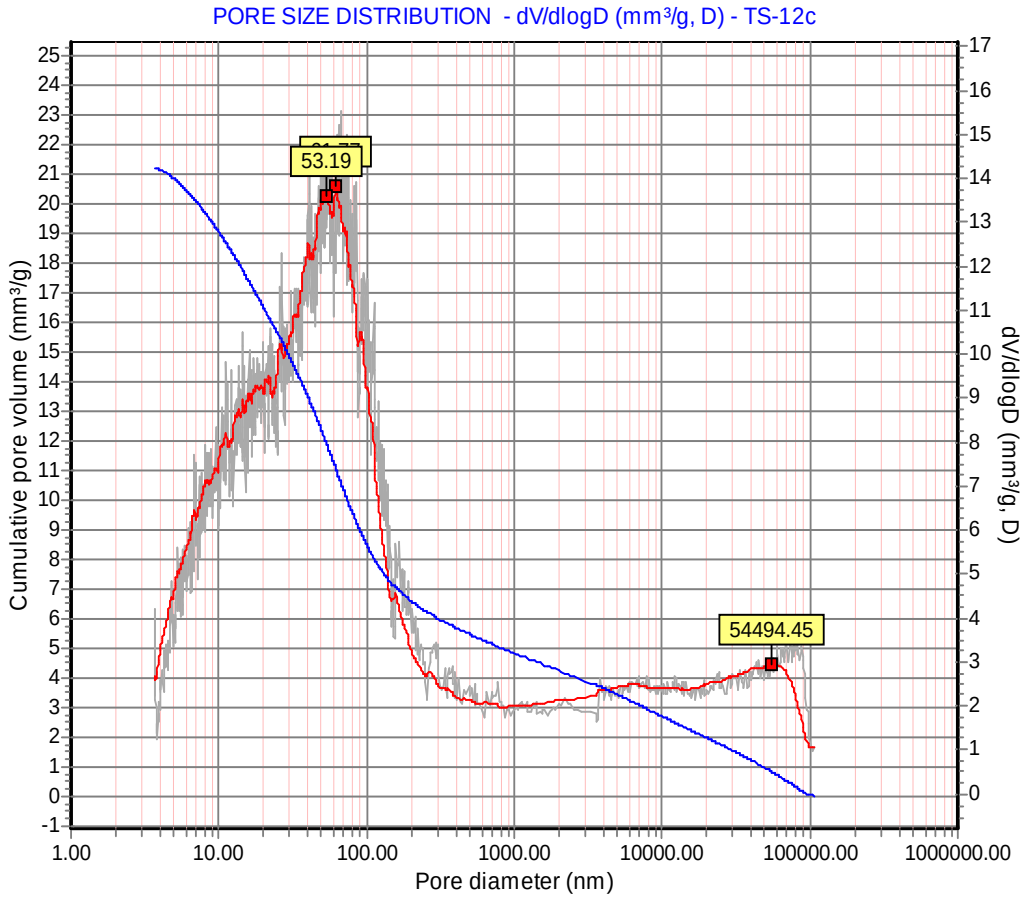
Inc / Dec - TS-12c




## RESULTS WITHOUT COMPRESSIBILITY CORRECTION

| | | | |
|---|---|---|---|
| Total intruded volume (mm³) | 148.84 | | |
| Total intruded volume (mm³/g): | 21.23 | at pressure of MPa: | 400.2106 |
| Spec. Vol. by skeleton dens. (mm³/g) Vd: | 26.56 | | |
| Bulk density (g/cm³): | 2.6326 | | |
| Envelope density (g/cm³): | 2.6328 | at pressure of MPa: | 0.014 Diam.(nm) 108147.5 |
| Apparent density (g/cm³): | 2.7885 | at pressure of MPa: | 400.2106 Diam.(nm) 3.7 |
| Porosity by skeleton density (%): | 6.99 | Calculated by skeleton density of | 2.8306 g/cm³ |
| Porosity by Hg intrusion (%): | 5.59 | | |
| Inaccessible porosity (%): | 1.40 | | |

## TOTAL PORE SIZE




| | | | |
|---|---|---|---|
| Derivative calculated with | | | |
| Moving average points: | 11 | | |
| Smoothing factor: | 0.95 | | |
| | | | |
| Calc. press. range (MPa): | 0.0 to 400.211 | | |
| Total pore volume (mm³/g): | 21.23 | | |
| Total pore surface area (m²/g): | 2.911 | with model : | Conical |
| Average pore diameter (nm): | 29.18 | Hydraulic (4V/A) | |
| Median pore diameter (nm): | 66.94 | at (mm³/g) : | 10.62 |
| Modal pore diameter (nm): | 61.77 | at dV/dlogD (mm³/g, D) : | 13.81 |
| Peak n. 2 Pore diamet. (nm): | 53.19 | at dV/dlogD (mm³/g, D) : | 13.62 |
| Peak n. 3 Pore diamet. (nm): | 54494.45 | at dV/dlogD (mm³/g, D) : | 2.97 |
| Span: | 261.6378 | at Min. Vol. (%) 10.0 | at Max. Vol. (%) 90.0 |

## TOTAL PORE SIZE HISTOGRAM

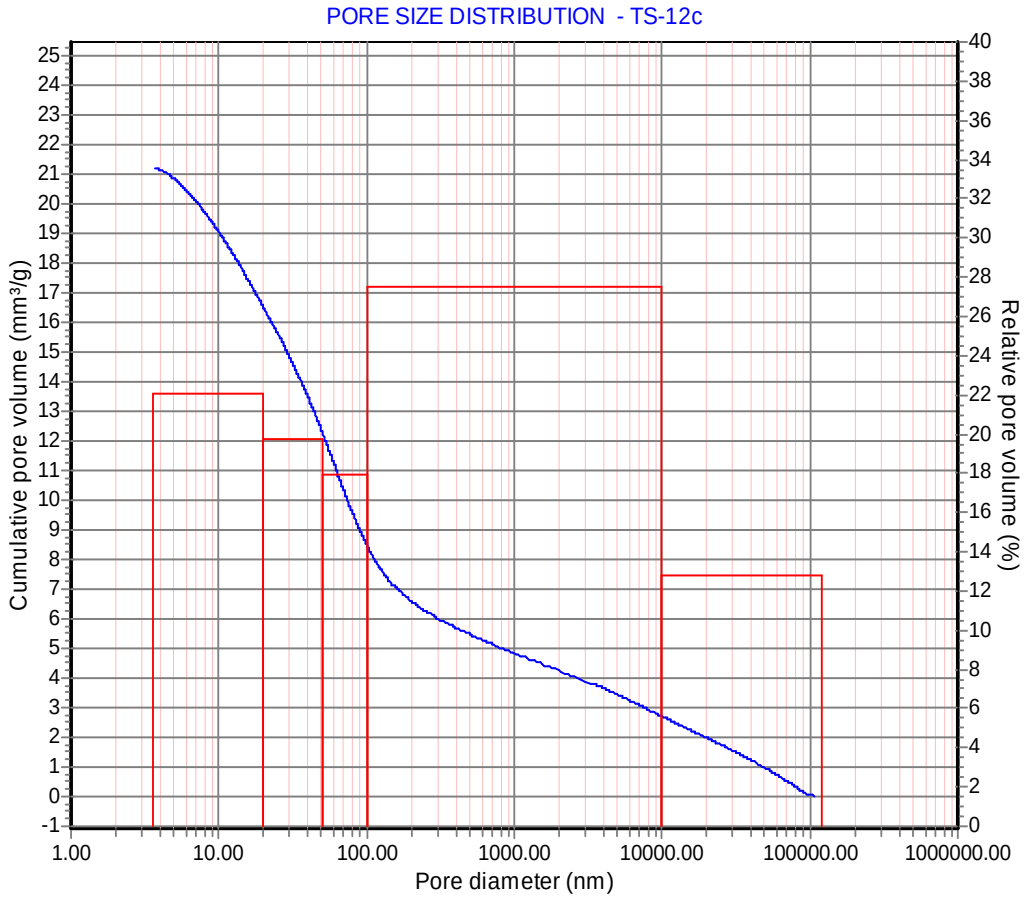



TABLE TOTAL PORE SIZE

| Pore diameter ranges (nm) | Medium point (nm) | Specific vol. (mm³/g) | Specific vol. (%) | Relative vol. (mm³/g) | Relative vol. (%) | Porosity (%) |
|---|---|---|---|---|---|---|
| 120000.00-10000.00 | 65000.00 | 2.71 | 12.77 | 2.71 | 12.77 | 0.707 |
| 10000.00-100.00 | 5050.00 | 8.54 | 40.23 | 5.83 | 27.46 | 1.535 |
| 100.00-50.00 | 75.00 | 12.35 | 58.18 | 3.81 | 17.95 | 1.003 |
| 50.00-20.00 | 35.00 | 16.54 | 77.89 | 4.18 | 19.71 | 1.101 |
| 20.00-3.60 | 11.80 | 21.23 | 100.00 | 4.70 | 22.11 | 1.236 |